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LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. X.

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Urethral Stricture. — GENTLEMEN: I propose to-day to begin with some of our older cases. This man, whom you have seen before, has for a long time been a person of irregular and intemperate habits. He has a stricture, which, as in nine such cases out of ten, is the result of gonorrhœa. The stricture developed until it caused complete retention of urine. When I was called to him he had not urinated for thirty-six hours; the bladder was dilated up to the navel, and distress was great. If a patient in this condition were not relieved, would the retention kill him? Suppose him to be in the country, out of the reach of surgical assistance; would he die? Ordinarily he would not, for in such a case before death occurs nature throws in a saving clause, and rescues the patient by dilating the urethra, which, when the bladder is extremely distended, is pulled open, thus allowing some leakage; and although the stricture is not permanently bettered, the patient is relieved. A person but rarely dies from retention of urine; it was, however, once my fortune to see a death from this cause. The patient was an Irishman. The retention was made worse by the presence in the bladder of clots of blood. I introduced a small catheter through which came a dribble of urine; but this was soon stopped by clots and mucus. I then advised tapping or cutting. The patient refused to submit to either operation. Everything was done to overcome his obstinacy; even his priest was called in to use his influence, but without avail; the man became stupid, probably from absorption of urea, and died, sweating, vomiting, and with a full bladder. Just before death an enormous perspiration drenched his entire body, — an evidence that nature attempted relief by pouring out water through this channel. The man lived until the fourth day.

When, unfortunately, the stricture does not yield to the pressure of a distended bladder and allow the urine to dribble away, it sometimes happens — because of the pressure — that the urethra bursts behind

the stricture. Then we have urinary infiltration, in front of the triangular ligament into the scrotum and penis, and up into the abdominal walls. This extravasation of urine, although it relieves the urgent distress of the patient, soon causes sloughing and absence of the connective tissue, and unless alleviated by free incisions is fatal. A distended bladder is a dangerous condition. Surgically there are various methods of relief: We may take a curved trocar and tap the bladder, behind the prostate gland, through the anterior wall of the rectum. The finger is first introduced, until it feels and passes beyond the prostate gland; then the trocar is carefully passed in along the finger. This is not always a safe operation, for, in old persons, the prostate gland is sometimes so large that it becomes perforated, and abscess results. It is an inconvenient operation, because when the first defecation occurs the catheter, which otherwise might remain in the bladder, must be removed. What becomes of the perforation? It does not seem to create any trouble, and never results in a fistula.

Another operation is to tap the bladder over the pubes in the locality which we know to be free from peritonæum. The trocar has been used here, and a catheter subsequently inserted, which emptied the bladder like a siphon. Within a few years, however, the introduction of the aspirator and the needle has made the operation much more easy. The proper way of employing the needle is to rotate it into the bladder, first, however, making an incision in the skin, so that the needle may not become clogged. This method of relief is so safe that it may be often repeated. The one objection to the use of the aspirator in retention of urine — as proved in our patient — is that it does not thoroughly empty the bladder; for, in almost all these cases, the presence of mucus prevents a free flow of urine through the needle. When this patient entered the hospital I aspirated eighteen ounces of urine from his bladder, but found that more remained, which, because of its thickened quality, I could not draw through the needle.

So far as I know there has been but one fatal result from this use of the aspirator. In this case, which happened outside the hospital, the tapping was correctly done, but the needle was left *in situ* four days. It is not difficult to imagine what followed. Obedient to the respiratory movements of the diaphragm, the needle rode up and down until it became loosened at its point of entrance into the bladder, and urine began to leak into and between the tissues of the abdominal walls and down into the pelvis. Over the abdomen I found a large, hard cake of infiltrated urine; the needle was thoroughly clogged with mucus, etc., and the patient died from pelvic abscess caused by the irritating urine. Therefore, although this form of puncture is perfectly safe, common sense must be used when we adopt it.

The patient before us was brought into the hospital with a distended

bladder. After many attempts my assistant finally passed a small, capillary catheter, which, however, soon became filled with clots of mucus, and the man remained thus until I tapped his bladder with the aspirator needle and relieved him. In twelve hours from that time he was as bad as ever. A capillary catheter again was tried, but without success. I therefore resorted to Cox's operation, which consists in tapping the bladder by the membranous urethra, through the perinæum and at the apex of the prostate gland. The instruments necessary for this operation are a narrow knife, a director, and a catheter. In his day Mr. Syme introduced the operation of cutting through the stricture without a guide, by picking his way through the perinæum until he had found the small orifice in the stricture. But this operation is not only lengthy, in some cases occupying one and a half hours, but causes great laceration and hacking of the tissues. Mr. Cox, of Guy's Hospital, adopted the bolder practice of plunging his knife into the bladder through the perinæum.

The details of Cox's operation are as follows: the patient is put into the position for lithotomy; the surgeon introduces his finger into the rectum, finds the prostate, and, using the isthmus between its two lobes as a guide, draws the finger forward to the membranous portion of the urethra, which, as you know, is directly in front of the prostate gland. The knife enters the perinæum exactly in the median line, between the bulb of the corpus spongiosum and the anus. The finger being in the rectum, the blade of the knife is pushed inward and downward, until only the thin wall of the membranous urethra interposes between the back of the knife and the finger. By keeping the knife precisely in the centre of the perinæum we may do this very accurately. Next, the handle of the knife is depressed; the point is correspondingly raised and pushed straight on through the prostatic urethra into the bladder. A gush of urine proves that the blade has entered the organ.

As the blade is withdrawn it should be made to cut upward a little. Next, and before taking out the knife, a long director is introduced, and by means of its groove a large catheter, without a stylet, is passed into the bladder and fastened in. This completes the operation.

Cox's operation is very satisfactory but of course is not justifiable if we possibly can pass an instrument through the stricture.

Our patient was tapped by this method one week ago; a No. 12 catheter was introduced, and to its outer end a rubber tube was attached, then led to a vessel under the bed, and thus has acted strongly as a siphon. Now, what are we to do for the stricture? The tube could remain as it is, but we must restore the normal calibre of the urethra. I will show you how this is done. As a first move it is best to use the whalebone bougies of Goulay. They have two advantages: first, they are sufficiently stiff to offer the needed resistance;

secondly, at their point they have an angle which by rotation finds its way through the stricture. When one of these instruments is once in the bladder, we slide over it a dilator, which in one side has a slot for the reception of the bougie. Holt's dilator, which I now show you, is another good instrument. It is so made that the urine can pass, and is capable of being dilated by a solid rod which is introduced between two halves of the instrument, and carried in beyond the stricture. This is a favorable form of treatment in cases of mild nature, but when they are severe we cannot wait to dilate. Another means of overcoming the stricture is by the introduction of a small, grooved staff, which receives a triangular knife provided with a blunt side to protect the opposite wall of the urethra. When the knife reaches the stricture, however, it cuts the obstruction, and gives to the urethra a uniform size. This is the instrument of Maisonneuve. As I now hold it, you see its mode of action. Dr. Fifield has this morning shown me Tievan's stricture staff, a very long instrument. It resembles Syme's staff in having a small groove as a guide, but its essential points are these: the staff is in two parts, one being the ordinary curved and grooved staff, the other a straight joint, by which the first is much lengthened. After this has been introduced into the bladder a large rubber tube is passed over it down to the stricture. The inner end of this tube is beveled off nearly to a point, so that it acts as an indicator of the exact site of the stricture, for the tube can be felt through the perinæum at its point of arrest. I demonstrate its peculiarities in my two hands, thus.

Much of what I have said to you can be found in the books, but I have mentioned three facts which are certainly important, namely, first, in prolonged retention of urine the bladder will leak by a dilatation of the sphincter muscle; secondly, in retention of urine death *has* occurred as a result; and thirdly, in this affection the aspirator is safe, but it will not do to leave the needle in the bladder, and the instrument will not completely empty that organ.

Turning again to our patient you see what his condition is, — his flesh soft, waxy, flaccid, and almost œdematous, the characteristic bloating of intemperance. This appearance would make me suspicious that we should find albumen in the urine, and the kidneys in a state of disease, if it were not that an examination has been made, and no more albumen found than could be accounted for by the pus and blood, and no casts were seen. Probably, then, the kidneys are fairly healthy.

Our next step is to find the stricture. Goulay's bougie passes in five inches before it is arrested, showing that the stricture is well back in the perinæum. In using elastic bougies after Cox's operation they are apt to turn and slip out through the wound in the perinæum. My bougie, however, has gone beyond the stricture, and over it I pass the grooved dilator, which now is in the bladder, as I prove by feeling for

it with my finger in the rectum, and also by the freedom with which it revolves. I might introduce my finger into the wound but for the danger of breaking up the granulations. I now take a Holt's dilator, and, inserting it without much difficulty, distend the urethra by means of these rods as already explained. The size of the last rod shows that the canal is well opened. It may not yet be easy to introduce this elastic catheter, but I find it has entered the bladder, in which we shall keep it by means of tapes.

The question now arises, Is there any danger of infiltration or absorption after rupture of the urethra by the use of Holt's and Goulay's instruments? If a catheter is kept in the bladder a few days there will be but little danger of infiltration. Sometimes, however, septic absorption, probably through the venous sinuses of the prostate or the bulb, occasionally occurs. I have seen one fatal result after the use of Holt's dilator.

We have now completed the present treatment of this case, but it must be followed up by keeping a large catheter in the bladder. This we shall do for a while, after which we shall pass one every few days. The patient will be taught and urged to introduce a bougie himself after leaving the hospital. He will soon find that it hurts, and so will choose one of smaller size, and will never return to the larger instrument. By and by he will find the urine flowing so slowly that the catheter will be thrown away altogether, and in six months he will be as bad as ever. This is the common history of such cases. The only prevention of a renewal of the stricture is dilatation with a large catheter *once a week for life*. Otherwise, in spite of any treatment, the stricture will recontract. I saw this well exemplified quite lately in an old gentleman, whom I found in great agony from retention of urine. For forty years he had been treated by various physicians, but in spite of abundant means he allowed his stricture to recontract every year or two during the entire period of its existence.

Another question is as to whether the perineal cut will heal while the catheter is in the bladder. My experience is that the presence of the catheter retards the process of healing. But the patient must wear the catheter for the present. Later it should be introduced every other day. When the perineal sore becomes chronic, we can hasten the healing by allowing the patient to walk about. While he remains in bed the tissues will be soft and indolent. Fistula in perineo and fistula in ano sometimes heal better in their later stages, after operation, by allowing the patient liberty to go about moderately.

Syphilitic Constriction of the Pharynx. — Our next patient is a female who has severe constriction of the throat, as a result of specific disease. She gradually and slowly became unable to breathe, and I now propose to see what can be done to overcome or relieve the constriction.

The patient entered the hospital with tertiary syphilis. The pillars of the fauces were ulcerated away, and the passage downward was gradually closing. Before the condition becomes too bad I think it best to attempt dilatation; otherwise an almost impassable contraction will form. In the wards we have a man who has been in the hands of various irregular practitioners. His throat is so nearly closed that I thought it must be the effect of caustics. But the patient says the disease alone has done the work. In his case I have been obliged to do tracheotomy. In treating the patient before us I first introduce a gag to keep the mouth freely open. On examination I find the passage up into the pharynx is extremely small; the route downward is not so much affected. I now introduce a large catheter through the nose and down into the pharynx, thus dilating the constriction. Giving the catheter the proper curve, I pass it reversely from below upward and from behind forward into the nose. The instrument barely goes through. I now take what is called the rectal bougie of various sizes, and now resort to the finger, which after all is better for purposes of dilatation than any form of bougie. I have broken down the contraction pretty well, and think it not prudent to do more to-day. The dilatation will have to be repeated.

THE PHYSIOLOGICAL PATHOLOGY OF THE HYDROPHOBIC PAROXYSM.

BY JAMES J. PUTNAM, M. D.

HAVING been much interested in Dr. T. B. Curtis's discussion as to the nature of the hydrophobic paroxysm, in the last two numbers of the JOURNAL, I venture to suggest a modification, or rather an amplification, in certain respects, of the theory there suggested in explanation.

The hydrophobic paroxysm, as described by Dr. Curtis, seems to consist of two elements joined together in varying proportions: first, of dyspnœa, due, no doubt, as he shows, to inhibition of the inspiratory centre; and, second, of a sort of excitement, which may fairly be called hysterical in nature, resembling that of a person who has lost all control of himself through fear of some danger, which he is making wild and to some extent irrational efforts to avoid.

As regards the exciting causes of the inhibition of respiration, Dr. Curtis enumerates a number, of which the chief is excitation of the superior laryngeal nerve, and among the rest emotional excitement.

The occurrence of these inhibitory phenomena to the exaggerated degree here present might be said to imply either that the respiratory centre is abnormally susceptible to inhibitory influences; or that the inhibiting impulse is extremely powerful. It is these points which we can, I think, profitably examine more closely.

It appears to have been clearly demonstrated by the recent valuable investigations of Professor Wundt, of Leipzig, that the power on the part of a nervous centre to be inhibited — if the expression may be allowed — is one the possession of which implies that the nervous tissue is in a state of relatively good nutrition, and that it is that power which is lost the first under the influence of disease, of fatigue, of poisoning with almost any drug.[1] Thus, to take an example from the sphere of cerebral activities, we know that emotional manifestations, kept under control when we are vigorous and well, break forth more readily when we are fatigued or sick, and it is hard to doubt, after reading Wundt's exposition, that the law is of universal application.

Inasmuch, then, as we have in hydrophobia a case of manifest impairment of nutrition of the respiratory centre, as shown both by its imperfect working between the paroxysms and by the structural lesions discovered in the medulla oblongata, we must certainly reject the theory of over-sensitiveness to inhibitory influences until compelled to adopt it under the rule of exclusion.

We are left then, provisionally, with the second hypothesis, that in favor of a powerful inhibitory stimulus, to explain the observed result. What is the nature of this stimulus? There is no evidence, as Dr. Curtis points out, that the impressions made on the skin or mucous membranes are thus abnormally intensified. Patients who are able to discriminate between the various contacts, as such, and their results, state that drinking, fanning, etc., are attended by no unusual sensations.

There is, however, one kind of inhibitory stimulus which is always active to some extent, in connection with the rest, in exciting the paroxysm, and which is sometimes exclusively active; that is, the stimulus furnished by the emotional excitement which in such cases is always present, and which appears to rise and fall in the same ratio with the intensity of the attacks.

This seems, indeed, the only form of stimulus which we can imagine furnished in the quantity which the case appears theoretically to demand, and the question arises if it is not really the exclusively efficient form.

It is worthy of note that in the analogous instances of inhibition met with in ordinary life, as, for instance, that caused by the shower-bath, the effects produced increase in direct proportion to the "nervousness" or lack of control of the subject, until finally a degree of emotional susceptibility is reached which is the underlying cause of paroxysms approaching in severity those of hydrophobia, and this susceptibility may be either natural or due to present influences. The behavior of "nervous" persons in the presence of danger, the cases of death from emotional excitement, the aimless struggles of a drowning man, are instances

[1] The only (apparent?) exception being the behavior of the cardiac ganglia.

of this kind. In most of them, to be sure, the turning-point of the paroxysm is not dyspnœa, but the distress, terror, struggles, and *breathlessness* of a timid person "spattered" briskly when bathing, by a number of others, is a case more exactly in point.[1]

According to the view here advanced, the hydrophobic paroxysm — so far as the inhibitory element is concerned — is *directly* due to the reaction on the respiratory centre of the morbid mental state of the patient centred, as it is, on a feeling of respiratory distress, which he feels himself incompetent[2] either to account for or to resist. The exacerbations of excitement are induced by anything which suggests, no matter how remotely, an increase of this constant respiratory distress, or, still more, which itself increases it, no matter how slightly, such influences thus acting mainly as *indirect* causes.

The merits of this view are that it contradicts no physiological principles; that it brings into harmony with the rest cases such as that described by Romberg, of the boy who was said to have had his first paroxysm induced by the *sight* of a glass of water, before it had touched his lips, but who, nevertheless, on making a quiet effort, succeeded, later, in swallowing small quantities without ill effects; that it unites under one scheme the paroxysm and the mental state of the patient between the paroxysms, which is usually flighty and restless.[3]

It was said at the outset that the hydrophobic paroxysm is made up of two factors, and we have considered hitherto only the element of respiratory inhibition.

Although, however, the occurrence of a certain amount of respiratory distress forms the central feature of the paroxysm, it cannot, I think, be said to constitute its most important symptom. Even if we admit that the activity of the inspiratory centre is depressed for a time (during the attack) to the zero point, we reach no explanation of the really characteristic features of the hydrophobic paroxysms. A healthy man can suspend his breathing for upwards of a minute without suffering a fraction of the distress manifested in such attacks. The dyspnœa is rarely so great as to cause any considerable accumulation of carbonic acid in the tissues, and though the patients are said sometimes to die asphyxiated, it is certainly not with acute asphyxia. It is probable that the case marches steadily towards a fatal end even in the inter-

[1] This, as well as other examples, is borrowed from Dr. Curtis's paper. He also dwells somewhat on the inhibitory influence of the emotions, but does not attach the same importance to them that I attempt to do.

[2] The absence of this element of mystery, no doubt, has to do in part with the absence of great excitement in cases of dyspnœa from gradual compression of the trachea and in asthma.

[3] Romberg describes or quotes from Parry an interesting symptom of this permanent mental state, which I have not seen mentioned elsewhere. It is that movements are made with an extreme, nervous haste. "The performance of an act seems to precede the volitional impulse," — evidently from diminution of the habitual inhibitory influences.

vals between the paroxysms. No doubt the result may be hastened by the occurrence of the attacks, but probably more from the excitement of the patient than from the inhibition of his respiration.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Passage of Migratory Cells through Inflamed Serous Membranes. — Arnold [1] has endeavored to ascertain through what parts of inflamed serous membranes the amœboid cells reach the surface, and what may be the condition of the substance between the superficial endothelial cells under such circumstances. He was enabled to observe that the cement between these endothelial cells became irregular in its outline after inflammation was produced, and that the migratory cells reached the surface by passing between the endothelial cells, never through them. The cement became swollen, and showed a series of dots and rings when stained with nitrate of silver; this alteration was so extensive and so uniform that it was not to be regarded as an accidental or unimportant occurrence. On the contrary, it was thought to be a direct result of the inflammatory process, and due to an increased tension of the membrane and a more abundant flow of fluid towards the surface. It could not, however, be determined whether the cellular migration was first in point of time, being followed by the punctiform changes, or whether the reverse was the case. The general impression derived from the observation of the living object was that the alteration of the cement was primary.

Relation between Tuberculosis and Scrofula. — The investigations of Friedländer [2] with regard to a local tuberculosis have been made the subject of an experimental criticism by Bollinger.[3] He objects to the inferences drawn from experiments made upon rabbits and guinea-pigs, since a variety of causes may result in the production of affections similar to tuberculosis, though not identical with human tuberculosis or phthisis. Even if a peritoneal outgrowth of nodules resembling tubercles follows the insertion of various indifferent objects into the abdominal cavity of these animals, it is by no means to be inferred that tuberculosis of the human species and other mammals is not due to a specific agent.

The experiments of Bollinger were made upon a goat, and a classical miliary tuberculosis of the peritonæum followed the introduction of a

[1] Virchow's Archiv, 1878, lxxiv. 245.

[2] See the JOURNAL, October 23, 1873.

[3] Mittheilungen aus dem pathologischen Institute zu München, 1878, page 194

fluid containing cheesy particles from a tuberculous bovine lung. The resulting tubercles differed in no way from the miliary tubercles of man, and their local development was independent of the course of the blood-vessels or of the larger lymphatics. Furthermore, there were no evidences of peritonitis except at that part of the peritonæum where the wound had been made. It was therefore evident that, in the inoculated variety of tuberculosis, the miliary growths may occur in healthy tissues as well as in those subject to inflammation. He considers that this experiment justifies the view that there may result from inoculation a tuberculosis thoroughly homologous with human tuberculosis.

In the same paper he gives the history of his attempts at determining experimentally the relation between scrofula and tuberculosis. A part only of the contemplated plan was carried out, and bits of a supposed scrofulous gland were inserted within the abdomen of a goat. The animal died after several weeks, and a miliary tuberculosis of the peritonæum was found. The effect of this experiment suggested to Bollinger that the individual from whom the scrofulous gland came was suffering from a tuberculous scrofula ; further examination showed that solidification and fine râles were present at the top of the right lung. The inference drawn from this experiment was that certain diseases clinically regarded as scrofula are nothing else than a beginning tuberculosis, and that a differential diagnosis may be made by experiment in certain initial forms of tuberculosis which pursue the course of scrofula. This experiment also confirmed the view that the agent which is present in the cheesy mass causes tubercles but not inflammation.

Other experiments have enabled him to state that certain forms of tuberculosis, induced by feeding, bear a strong morphological resemblance to scrofula of the human species, and that in many such cases the most striking change is an alteration of the lymphatic glands, like that which occurs in scrofula and tabes mesenterica. He further considers that his experiments justify him in stating that two forms of scrofula may be distinguished: the one simple and benignant ; the other a specific tubercular form, which may be regarded as a beginning tuberculosis.

Transmission of Tuberculosis through the Air. — At the annual meeting of the society of German naturalists and physicians, Lippl [1] gave the results of his experiments concerning the production of tuberculosis, assuming that the introduction of an infective material is the important factor. He endeavored to compel an inhalation of sputa from tuberculous patients, the minutest particles alone being used, that the irritating effect of large fragments might be avoided. Dogs were selected as the most suitable animals for experimentation, from the rarity with which they become tuberculous. This series of experiments proved negative. When the sputum was diluted with a weak solution

[1] Allgemeine medicinische Central-Zeitung, 1878, xxxviii. 461.

of salt and water, however, and this mixture inhaled, a miliary tuberculosis resulted.

Tappeiner[1] also produced an artificial tuberculosis by causing dogs to inhale a spray composed of phthisical sputa diluted with water. Other dogs were fed with similar sputa, and were found to have acquired a miliary tuberculosis. He inferred that the human subject may also become tuberculous from the inhalation of particles from phthisical sputa suspended in air. The experiments seem to favor the view of the contagious nature of pulmonary phthisis, and to indicate that it is dangerous for phthisical patients to swallow their own sputa.

At the same meeting Schweninger called attention to the importance of these observations, if the nodules were to be regarded as actual tubercles. He had examined the specimens referred to in the above communications, and was of the opinion that they represented actual tubercles, and were entirely distinct from the appearances described by Friedländer and Wolff. The hereditary character and the contagion of tuberculosis thus received a ready explanation. For the inhalation of air expired from phthisical patients and the use of milk from tuberculous mothers furnished a more satisfactory means for transmitting the tuberculous poison than the view of predisposition or constitution.

Changes in Bone produced by Arsenic. — Rabbits, fowls, and pigs were fed by Gies[2] during a period of nearly four months with small but gradually increasing doses of arsenic. The several animals grew heavier and fatter, and the epiphyseal and periosteal growth of bone became increased in those animals who, during the course of the experiments, were not fully developed. Spongy bone was everywhere replaced by compact bone; the bones of the wrist and the ankle, for instance, having been found to be composed of solid bone. A dense layer of bone was formed beneath the epiphyseal cartilage, as after feeding with phosphorus, and was especially marked at the upper epiphysis of the humerus, and at the lower of the femur. Animals confined in the same pen with those experimented upon showed similar changes of the epiphyseal layer, which fact was attributed by Gies to the absorption of arsenic eliminated from the skin and lungs of their companions. Corresponding alterations were found in animals confined in a cage, beneath the perforated floor of which arsenic was spread.

When adult animals were fed with arsenic the cortical layer of the diaphysis became considerably thickened. More or less pronounced fatty degeneration of the heart, liver, kidneys, and spleen was present, although the general nutrition of the animal was most excellent. Larger doses of arsenic gave rise to the usual phenomena of arsenical poisoning, namely, inflammatory changes in the stomach, extreme hyperæmia

[1] Centralblatt für die medicinischen Wissenschaften, 1878, xxi. 378.

[2] Allgemeine medicinische Central-Zeitung, 1878, xxxix. 481.

of the intestinal mucous membrane, and a very extensive fatty degeneration of the liver, spleen, kidneys, and heart.

The young born from the rabbits were cast dead, yet were remarkable for their size, and showed the beginning of the changes above described. A considerable hypertrophy of the thymus gland was also found.

Fatty Heart. — Leyden [1] makes a communication to the Berlin Medical Society on this subject in connection with the report of a case. He considers that there are three forms of fatty heart: in the first the muscular fibres are degenerated; in the second there is an excessive formation of fat tissue upon the heart; in the third there is an abundant development of fat tissue upon the heart and between its muscular bundles, but occurring in cachectic individuals, whose hearts are small and atrophied, and who have but little fat tissue.

In this last form the fat is to be considered as filling gaps, but not as a cause of disease. Objection is made to the custom of including the first two forms under one head, as is usual in the modern works on diseases of the heart, although it is admitted that fatty degeneration of the heart can only be suspected during life. This suspicion may assume a greater or less degree of probability, but the existence of a fatty heart as a definite disease cannot be certainly diagnosticated.

He reports in detail a case of fatty infiltration of the heart occurring in a corpulent person, who presented during life evidences of a feeble heart. After death both ventricles were found to be dilated, and there was an aneurismal dilatation of the apex. The presence of numerous disseminated small spots, in which the muscular fibres were separated by fat, and consequently atrophied, was considered as a cause for these lesions and for the symptoms. The fatty infiltration was supposed to have disappeared in places, leaving an atrophied portion with thickened interstitial tissue. This relation between the atrophied portion and the development of fat tissue was inferred from the more abundant accumulation of the fat towards the pericardium, and the association of a fatty infiltration of the spaces between the muscular bundles, while the bundles themselves were atrophied.

(*To be concluded.*)

[1] Berliner klinische Wochenschrift, 1878, xvi. 221.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

APRIL 27, 1878. Seventy members were present, the president, DR. HOMANS, in the chair. The records of the last meeting were read and accepted.

Fistula in Ano. — DR. ORDWAY showed some cases of fistula in different stages of treatment and after cure by the application of the sesquicarbonate of potash, and, in support of this method, compared his results with those obtained at the Boston City Hospital during the year 1877.

DR. READ thought with regard to the City Hospital statistics that the result was not the fault of the surgeons, but of the method. He had seen many patients who had been discharged from hospitals who had no control over their sphincters. After middle life the cicatrices were apt to open. Dr. Read had observed that superficial fistulæ got well under all modes of treatment, — the knife, ligature, or caustics. Deep rectal fistulæ, however, which opened high up in the bowel were very different, and Dr. Read was confident that the alkaline caustics, sesquicarbonate of potash, or even potassa fusa, which were said to dissolve the indurated tissue without causing a slough, afforded the best chance of success.

DR. HUNT asked if Dr. Ordway had cut fistulæ.

DR. ORDWAY replied that he had in some thirty cases with the elastic ligature and in other ways. He also said that he had not found it advisable to open ischio-rectal ab cesses in an acute stage.

DR. E. W. CUSHING said that the ligature of horse-hair and flax with sulphate of copper had been used in the treatment of fistulæ some hundreds of years ago, and that sesquicarbonate of potash and potassa fusa were not vegetable caustics (as they had been termed by Dr. Ordway) any more than sulphate of copper was.

DR. W. INGALLS said it was by no means fair to bring forward, in this connection, the statistics of the Boston City Hospital, and to use them for comparison. It should be generally known, as it is known by all here present that one of four terms is recorded against the name of a patient at the time of discharge to denote the condition, namely, "well," "relieved," "not relieved," "dead." The word "relieved" is most frequently used, for the reason that a majority of patients prefer to go before a restoration to health is complete, but yet is near at hand; as the word "well" cannot conscientiously be written against such names, we write the word "relieved." Given an equal number of men of physique as good as that of those exhibited, also let them be of equal intelligence, and have as urgent a desire to get well as these must have had, and the statistics of the hospital will not suffer.

Tetanus; Diphtheria; Knots in the Umbilical Cord. — DR. READ reported a case of tetanus following the bite of a dog. The patient, aged forty-one years, was bitten in the right arm over the head of the radius, making a large lacerated and punctured wound; it was cauterized fully, and a poultice wet with laudanum was applied over it. In the course of twenty-four hours, symp-

toms resembling tetanus made their appearance. At first these were controlled by bromide of potash, thirty grains in fluid extract of scutellaria every two hours. The severity of the symptoms increased, and with the advice of Dr. Cabot the patient was ordered thirty grains of chloral every two hours in addition to the bromide. On the evening of the third day true tetanus came on; the treatment was continued, and ether was ordered *pro re natâ*. The tetanic symptoms with very pronounced opisthotonos continued for thirty-six hours, and then began to subside. The patient, while under the influence of the chloral, suffered from all sorts of hallucinations, — blood spots on the wall, strange faces, etc. He was convalescent in about ten days, and is now entirely well. During one hundred and fourteen hours the patient took seventeen hundred and ten grains of chloral, and at least as much bromide of potassium and ammonium in equal parts.

Dr. H. I. Bowditch inquired with regard to the case what proof there was that the strong cauterization did any good, as the dog was not hydrophobic, and whether it might not have been the cause of the symptoms.

Dr. Read said that he thought not, but in any case he should not feel at liberty to neglect cauterizing when cases of hydrophobia were occurring.

Knots in the Umbilical Cord. — Dr. Read exhibited twelve interesting specimens of knots in the umbilical cord.

Dr. W. L. Richardson asked how long the shortest cord was, saying that the average length was twenty-two inches.

Dr. Read replied that twenty-eight inches was the shortest among these specimens.

Diphtheria. — Dr. Read also reported a case of croupal diphtheria, in which the patient, aged eighteen months, recovered after four days of excessive dyspnœa. The treatment consisted of sulpho. carbolat. sod. twenty grains every three hours; swabbing the throat with sulphurous acid, and later one grain each of hydrarg. submur., ipecac., and sanguinaria, once in three hours. Onion and rye-meal poultices were applied to the chest front and back. The room was kept full of the steam from hot water in which caustic lime was slacked.

Dr. Kinnear propounded a question as to the cause of a second outbreak of diphtheria in a ward of the House of the Good Samaritan by stating that though the most thorough disinfection had been resorted to, the disease reasserted itself about ten days after the ward had been reëntered. The query was whether the first cause of the first outbreak was again acting, or whether a fresh supply of blood poison had arisen from another source.

OPERATIVE SURGERY.[1]

Books on this subject are so numerous that an addition to their number might well be thought superfluous, but a brief examination of the present volume will convince the reader that it has ample reason for existence. In the first place, we find that the author has brought his subject up to the very latest dates: as proof of this we may mention a description of Dr. Bigelow's

[1] *A Manual of Operative Surgery.* By Lewis A. Stimson, B. A. (Yale), M. D. With three hundred and thirty-two Illustrations. Philadelphia: Henry C. Lea. 1878.

method of performing rapid lithotrity, with drawings of his instruments; also an account of Volkmann's methods of treating cancer of the rectum, a description of whose operations has appeared only within a few months. In the next place many operations are described in this book which are not to be found in other similar works. Among such are Emmet's method of operating for ruptured perinæum and for laceration of the cervix uteri. In mentioning the devices employed for the relief of varicocele the author has the good sense to point out the uselessness of operative measures for its cure, and frankly expresses his preference for palliative measures. Plastic surgery is well and fully described, and a judicious selection has been made of the more desirable methods. The plates are for the most part very good, and give one a clear idea of the purpose to be accomplished. As might be expected, all parts are not of equal merit, and we notice here and there some deficiencies. For example, the history of operations for cleft palate does not include the work done by some American surgeons, and no account or illustration is given of Suersen's obturator. Usually, however, there is sufficient variety in the descriptions to suit all tastes. The volume is compact, of convenient size, and the type is excellent.

HOSPITAL HEATING AND VENTILATING.[1]

The fifth of a valuable series of papers on hospital construction, by Dr. Billings, deals entirely with the difficult matters of heating and ventilating. The problem of ventilating a large hospital, that is, of supplying air in abundance under exceptional as well as under ordinary circumstances, resolves itself naturally into several inquiries, which in the report are answered separately. The character of pure air must be defined from a practical rather than from a theoretical stand-point, and may be assumed to be the best attainable standard of the external atmosphere; hospitals must not be placed, of course, where the air is loaded with impurities. And as it is not possible to drive out the impure air alone, but only after admixture with pure air, it is evident that a great waste must be provided for in all systems of ventilation. Beside the ordinary change of air, too, which will be abundant to remove the usual impurity and foul odors, provision must be made for flushing the wards with a great stream of clean air, especially during the early hours of the day, when the discharges, changing of dressings, etc., give rise to great offensiveness. The innocuousness of carbonic acid alone, in any possible proportion in hospitals, its chief use as an approximate indication of the amount of organic impurity present, and its great diffusiveness, resembling all other gases, so as not to collect or "settle" anywhere in a room, are well stated; and then the standard minimum amount of pure air to be introduced is adopted of one cubic foot per second per bed in the large ordinary wards, one cubic foot and a half for the separate rooms, and two cubic feet or seventy-two hundred cubic feet an hour in the isolation wards, making proper allowances for friction, of course. Recent experience has shown that this amount can be supplied, and that it is none too much.

[1] *Report on Heating and Ventilation.* Prepared for the Trustees of the Johns Hopkins Hospital, Baltimore, Md. By John S. Billings, Surgeon, United States Army. 1878.

Dr. Billings does not adopt the view of Mr. Briggs and others, that the extreme dryness of the internal air so common in our climate in itself produces uncomfortable sensations and is to a considerable extent injurious, although he admits that the degree of humidity easily obtained in England is all but impracticable here, and that consequently we must maintain higher temperatures. The subject, however, is one in reference to which we are still in need of careful experiments and exact knowledge, before aiming at a definite conclusion. After providing that the hospital wards shall not be contaminated, as is so often the case, by unnecessary impurities emanating from water-closets, etc., the report states the means of ventilation depended upon at different times, more or less conjointly, of course, to be open windows, ridge ventilation, aspiration, with means of supplying moisture in the main duct, and propulsion. Nothing less can be considered satisfactory; and these fill all reasonable requirements so far as our science and money at present allow, whatever the relative humidity, pressure, or temperature of the air may be, and however the wind may blow.

The method of heating preferred is by hot water, and generally by indirect radiation; fire-places and direct radiation are to be also somewhat used. Dr. Billings prefers hot water, with large heating surfaces of low temperature, to steam, as being for the wards less expensive, more easily managed, less noisy, as usually set, and less likely to overheat the rooms. The difficulty of mixing the hot and cold air, with steam heating, has been so well solved at the Boston City Hospital by Dr. Cowles that any objection on that score is withdrawn; the noise and overheating may be obviated with some care and expense, as at the Massachusetts General Hospital. For some of the buildings steam is recommended.

A great part of the value of the report consists in the careful series of observations made at the Barnes Hospital in Washington by Dr. Huntington, and at the City Hospital in Boston by Dr. Cowles. A mass of exact information has thereby been obtained which cannot fail to be of great usefulness to all persons interested in the puzzling problem of heating and ventilating large buildings under all the changing atmospheric conditions of our climate; they reflect great credit, too, upon the two hospitals just named, and upon the medical superintendents, to whose skill and care it is due that such good results as those obtained are possible.

We have rarely seen so much sound sense and useful information so concisely packed in one small, interesting pamphlet. We commend it to the careful study of all persons interested in hospital hygiene. It is to be hoped that the Johns Hopkins Hospital may use its abundant opportunities for scientific inquiry, as Dr. Billings suggests, and give an authoritative solution of many of the problems, economical and sanitary, which at present can be only approximately answered upon insufficient data, and largely by so unsatisfactory a method as balancing opinions. The hospital has already done good service in that direction.

HORSE-BACK RIDING FROM A MEDICAL POINT OF VIEW.[1]

THIS is a very neat little volume, containing one hundred and two pages, divided into six chapters, with an additional chapter concerning the origin and progress of horse-races. The author is evidently an enthusiast. His little treatise contains a good many remarks on horse-back riding if devoted to physiology, and a good deal of physiology if devoted to horse-back riding, which we are fully persuaded is an admirable form of exercise.

HEALTH RESORTS IN THE ATLANTIC.[2]

THE recent equinoctial gales have doubtless given many a delicate invalid a distaste for ocean travel, but it has also reminded him that the struggle for existence in these wintry latitudes is soon to commence. A perusal of this book will fill his imagination with soothing influences. One can almost feel the balmy air emanating from the sunny pictures of tropical landscapes which are so full of suggestions of a winter of comfort and repose. A careful selection has been made by the author of such islands as are free from visitations of yellow fever or persistent malarial epidemics. "Great care has also been taken to obtain the fullest and most correct sanitary statistics on the subject." The lack hitherto of a suitable guide-book enhances the value of this volume, which is kept in the form in which the articles originally appeared in *Harper's Magazine*, and is consequently interesting to the general reader as well. Although the warmer climates receive the largest share of attention, summer resorts are not omitted, and we find suitable descriptions of the Isles of Shoals, Prince Edward's Island, the Isle of Wight, and such other points in the North Atlantic as are agreeable to pleasure-seekers. All that the traveler wishes to know about the Azores, the Bahamas, Madeira, and the Bermudas is described in a most charming way, and the illustrations are full and of a very high order of merit. The book is undoubtedly of great value to the physician who wishes to become familiar with such health resorts as do not involve a European tour. We hope a similar volume will appear containing a description of the various sanitaria of the southern and western portions of the United States.

FORD'S QUESTIONS.[3]

WE have no doubt that these questions are very convenient for Dr. Ford's pupils when preparing for an examination, but we do not believe that they will be of much value to others. The same might be said of questions founded on even a better course of lectures than these. T. D.

[1] *Horse-Back Riding from a Medical Point of View.* By GHISLANI DURANT, M. D., Ph. D., etc., etc. New York: Cassell, Petter and Galpin.

[2] *The Atlantic Islands as Resorts of Health and Pleasure.* By S. G. W. BENJAMIN. New York: Harper and Brothers. 1878.

[3] *Questions on Anatomy, Histology, and Physiology for the Use of Students.* By C. L. FORD, M. D. Ann Arbor: Courier Steam Printing House. 1878.

ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

As we go to press the above association will have begun its sixth annual meeting. The aim of the association is one which, if properly pursued, may make it of very great service, especially in a country like ours, in all parts of which the old processes of nature and the new complications of modern civilization and industry are constantly being brought into conflict, under conditions more or less strange or disastrous in their influences upon the populations affected by them.

Without any legal control, such as that possessed by the state boards of health, the association may still coördinate the work of these various boards and wield a great moral influence throughout the country.

We wish to draw especial attention to the present meeting of the association, which has been called together by the executive committee at Richmond, Va., and later in the season than usual, that the most effectual investigation into the causes of the great epidemic of yellow fever, into the methods of sanitary control and prevention of that destructive pestilence, and into the means for protecting the public health generally may be best promoted.

The greater part of the meeting will undoubtedly be taken up by the considerations of the report and evidence submitted by the yellow-fever commission, and by the discussion of such additional individual evidence and experience as may be presented.

Some of our readers will be present and take part in the discussions, but it is to the large number who remain at home that we appeal to take that interest in the meeting which the great importance of the subject demands, and to see to it, so far as in them may lie, that the sufferings and losses of this present epidemic may not end, as so many previous ones have done, simply in thankfulness that it is over. Our boasted civilization is a fraud if we cannot protect ourselves against an invasion from without of such enemies, and we are false to it if year after year we permit the manufacture and wholesale distribution within our own borders of these pestilential germs.

This epidemic is estimated to have cost the country at large about $175,000,000, and if we have communities who either can't or won't put themselves in order, it would, as a mere matter of economy, be for the interest of the general government to do it for them. In some way or other it should be done, and that speedily.

LITHOLA'PAXY IN LONDON.

THE latest files of English journals contain an interesting account of a recent meeting of the Clinical Society of London, at which Dr. Bigelow, who has just arrived home from a European trip, described his new operation for stone in the bladder. Many of our readers may not be aware that lithotrity has been growing less in favor with the leading English surgeons, who incline more and more to lithotomy. Under these circumstances the favorable reception in that conservative metropolis of Dr. Bigelow's demonstration cannot

be other than gratifying to American surgeons, many of whom have already employed this method with most satisfactory results. We may quote here from an article recently contributed to the *New York Record* by Dr. W. H. Van Buren, who says, "Personally, I feel much confidence that Professor Bigelow's novel proposition that lithotrity may be safely accomplished at one sitting will be successfully demonstrated, and that his discovery of the hitherto unrecognized tolerance of the bladder — for it is certain to be regarded as a discovery, in the full sense of the term — will, by its great practical value, modify the future of lithotrity." The following remarks are taken from an editorial in the *Lancet*: —

"The real interest of the evening commenced just before the usual hour for adjournment, when Dr. Bigelow was asked to give his demonstration. His operation is not a new one in principle; it is a development of lithotrity, as at present performed, in conjunction with the use of Clover's syringe. Perceiving that two of the obstacles to the success of lithotrity are the repetition of the "sittings" and the presence of sharp fragments of stone in the bladder, he crushes the stone at one "sitting," or in cases of large calculi in two, and at the time of operation removes all the fragments and débris. He has modified the lithotrite, so that the "catch" is secured by a slight rotation of the wrist, while by lengthening the female and having wedge-like serrations on the male blade he has rendered it impossible to seize the mucous membrane of the bladder, and unlikely that the instrument will become clogged by débris. The instrument, in fact, can do its work quicker than any other, which is a most important consideration when a stone has to be completely crushed at one sitting. The fragments are removed through a tube of larger calibre than is in common use in this country, — No. 31 French, — a size with which Dr. Otis has made us familiar, and Dr. Bigelow prefers a straight tube. The syringe with which the stream of water is forced to and fro is an elastic ball, which is fixed on a small stand, and worked with far greater ease than Clover's. Special precaution is taken not to over-distend a small bladder. The reasoning on which Dr. Bigelow has based this operation is sound, and no one who saw his apparatus can fail to admire the beauty of the means he employs. Thus far the success of the operation has been very good, and the fear that some entertained that the bladder would be injured by the prolonged operation has not been realized. We cannot but think that this development of lithotrity will introduce a new era in the treatment of stone, and we await with considerable interest the results of its adoption by English surgeons."

MEDICAL NOTES.

— Coto bark, a Brazilian product, and its derivatives are said by Witt-stein to be remarkably efficacious in various forms of diarrhœa. They are, however, quite expensive. See the *Doctor* for October 1st.

— Aus-tin Flint says codeia in one-grain doses so completely stopped the vomiting and pain in cancer of the pylorus that the patient thought the tumor was decreasing in size.

— Muscular fatigue from prolonged use of the pen may be pleasantly relieved by holding the latter after the manner of phonographers, namely, between the index and second fingers, keeping it in place by means of the top of the thumb. The distal end of the holder should point away from the body. The strokes are reversed, but one can write in this manner for hours without weariness.

— The dean of the University of Tübingen has been insulted by a person in England, who attempted to buy of him diplomas for his clients. The scoundrel was delightfully and publicly snubbed by Dr. Jürgens.

— A recent autopsy upon a newly born child revealed a *descending* colon upon the *right* side.

— We extract this item from the *Medical Times and Gazette:* Dr. N. Roritz, a resident at Nangoja, Japan, has described an execution with the sword which he was specially allowed to witness (*Wiener med. Wochenschrift*, No. 25, 1878). At the moment the head was severed from the body, the branches of the carotid arteries on either side, which were severed above their bifurcation, spirted the blood, without visible pulsation, 2.60 metres or nearly eight feet. As soon, however, as the main body of the blood had been ejected the pulsation became visible, and it continued even until only drops of blood issued, that is, for eleven minutes and a half. The heart's sounds could be detected by means of the stethoscope for nine minutes. During even the tenth minute forty-two pulsations of the carotids could be counted by all present. Immediately after the execution rattling inspiratory sounds were distinctly heard; and they persisted, gradually decreasing in strength, for five minutes and a half. The expiratory draught could still be felt on the moistened skin of Dr. Roritz's arm until the end of the sixth minute. The contents of the stomach were discharged at intervals from the moment of decapitation for about five minutes, the last portion being, as it were, squeezed out as if by a steady peristaltic movement, rather than forcibly ejected. All the muscles of the neck connected with the trunk contracted strongly several times, and twitchings of them were observed for two minutes and a half. The other trunk muscles were not seen to contract. The head could not be examined for twelve minutes, as it had to be washed and exhibited to the judge. It was then cold and pale, and the eyelids were half closed. The corneæ were opaque from old disease, and the reflex irritability of the iris could not be tested. Those parts, however, of the larynx which remained in connection with the head continued to tremble and twitch for quite twenty-three minutes; and it seemed as if irritation of the spinal cord augmented them. There was no doubt that the direct contact of a stick with the larynx made the muscles contract more strongly. A post-mortem examination of the body was refused by the criminal's relatives.

— Notwithstanding the numerous high positions occupied by the late Rokitansky, the income derived from them was small, and he died a poor man. In consideration of his services to science and the state the government continues his pension to the widow, and adds a special donation.

— Mr. Lister has been gazetted surgeon-extraordinary to the queen. The vacancy was created by the death of Mr. Hilton.

NEW YORK.

— Some time since Miss Mary Danser, the only child and heir of a noted New York gambler (deceased), died, and bequeathed to various charitable institutions of the city about three hundred and twenty thousand dollars. The will was contested, but was finally admitted to probate; and the executor has now paid all the bequests. Among them were $20,000 to the Home for Incurables; $20,000 to the New York Society for the Relief of the Ruptured and Crippled; $5000 to the Nursery and Child's Hospital; $5000 to the New York Eye and Ear Infirmary; and $5000 each to the Demilt, Northeastern, Northwestern, Northern, and Eastern dispensaries.

— On the evening of October 31st there was a formal opening of the new Hahnemann Hospital, which has just been erected in the upper part of the city, in the vicinity of the Presbyterian and Mount Sinai (Jewish) hospitals. Only the main building has as yet been put up, but it is proposed to build a wing on either side of it whenever the necessary funds are forthcoming. The portion completed is a very substantial structure of brick, supposed to be planned and fitted up after the most approved methods, and having accommodations for one hundred patients. Its total cost is said to have been the very moderate amount of $75,000, in which it certainly presents a marked contrast to the last building of the kind erected in the city, — the New York Hospital, which, with a capacity of one hundred and fifty beds, cost the snug little sum of a million and a quarter dollars. It has been truthfully remarked that all the patients could be boarded at the Fifth Avenue Hotel for a considerably less rate of expenditure; and a useful lesson in economy can at least be learned from the homœopaths.

— Much interest is felt in the approaching election by the Board of Governors of a surgeon to the Woman's Hospital, to take the place left vacant by the resignation of Dr. Fordyce Barker; and the three names most prominently mentioned in connection with the position are those of Drs. Noeggerath, James B. Hunter, and Charles C. Lee.

In case it should be decided to use both the pavilions of the hospital at the same time, instead of only one, as at present, it is possible that the staff may be increased to six, and then all three would no doubt be made surgeons. The three principal surgeons are now Drs. Thomas Addis Emmet, T. Gaillard Thomas, and Nathan Bozeman; and each of these has under him two assistant visiting surgeons, who serve six months alternately in the hospital wards and in the out-door department.

PHILADELPHIA.

— The attention of the County Medical Society having been again called to the abuse of medical charities, this *odium medicinæ* has been referred for consideration to the standing committee on Hygiene and the Relations of the Profession to the Public.

— At the late meeting of the College of Physicians, Dr. Wm. S. Forbes presented a paper in support of the view that Harvey had discovered the capillary system, in answer to the recent address by Dr. DaCosta, entitled Har-

vey and his Discovery, in which the opposite view is maintained. The subject is scarcely susceptible of definite settlement in the present state of the question, but the general opinion seems to be that if Harvey clearly understood the capillary circulation he would have immediately recognized the importance of the discovery, and would have described it in unmistakable terms.

CHICAGO.

— Prof. Moses Gunn has been confined to his bed for several days by the results of a poisoning received in an operation through an abrasion of the finger. He is recovering.

— The recent trial of Kennedy, the wife murderer, furnishes a novel medico-legal development. The plea of insanity was entered by the defense. The medical experts (Drs. Lyman and Brower) swore they believed the man then insane, and that in all likelihood he was insane at the time of the homicide. It was in evidence that the defendant had frequently taken spirits of camphor in considerable quantity to drive away, as he said, an evil spirit that dogged him.

The judge charged that if defendant was insane at the time of the homicide he was to be acquitted on that ground, *unless* the insanity was due to the use of alcohol, in which case the verdict must be of murder in the first degree. He did not say drunkenness, which seems not to have been proven, but insanity. The jury were also to state whether the evidence had established the present insanity of the prisoner.

The verdict was that of murder in the first degree, and that the punishment should be hanging; that the defendant at the time of the trial was insane.

It seems that the practice of all the courts has been in such cases to stop all proceedings against a prisoner who at the date of his trial is found insane.

Both the charge of the court and the verdict occasion surprise.

As a sequel the culprit, the next night after his trial, committed suicide in the jail by cutting his throat with a razor he had found in the corridor.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF DRS. CABOT AND WARREN.

[REPORTED BY J. W. ELLIOT.]

Eight Amputations with Antiseptic Precautions. — CASE I. P. H., a stout Irishman twenty-five years of age, caught his foot between the wheel and body of a "dummy engine." The foot was badly crushed and lacerated from the base of the metatarsal bones to the tip of the toes. The patient being etherized, the metatarsal bones together with the internal and middle cuneiform were removed. A flap was taken from the sole. The operation was done under carbolized spray, according to Lister's method, and a Lister dressing was applied. The vessels were secured with carbolized catgut ligatures. The stitches were silk prepared with carbolized wax. A drainage tube was left in the wound.

There was some slight constitutional disturbance after the operation. The temperature rose at first to 103° F., and fell to normal on the eighth day. Nearly

all the flaps sloughed, but the sides of the wound were brought together by carefully arranging the pressure of the dressing. The stump was healed in five weeks, except a small granulating surface, which was quite obstinate on account of the tension of the flaps. The Lister dressing was removed at the end of ten weeks, during which period it had been changed thirteen times, the dressings having remained untouched for five and one half days on an average. The patient was discharged, well, in eleven weeks.

Case II. T. A., a small Englishman thirty-two years old, was run over by a railroad train. The left foot was badly crushed, the tibia and fibula were broken, and the soft parts so lacerated as to require amputation a little above the middle of the leg. The patient being etherized, the leg was amputated with skin flaps, and a Lister dressing applied. The great toe of the right foot was also removed. There was no pain and very slight general disturbance following the operation. The temperature rose to 101° F., and on the fourth day to 102.50° F. The dressing being changed on that day the temperature fell immediately to 100° F., and then gradually to normal, which it reached on the ninth day. Most of the drainage tube was removed at the first dressing. A slough the size of a silver dollar formed on the upper flap, but the bones were easily covered. The Lister dressing was removed in five weeks, having been changed seven times, the average interval being five days. There then remained a small sinus, which healed soon after removing a piece of loose bone. The patient was discharged, well, in eight weeks.

Case III. M. C. is a stout Irishman forty years old. An engine wheel passed over his right foot, crushing it badly. Ether being given, the foot was amputated at the ankle-joint, a flap being taken from the side of the foot. There was more than the usual amount of hæmorrhage. The operation was done according to Lister's method, and a Lister dressing was applied, which was torn off by the patient while coming out of the ether. A light carbolic dressing was left on for the night, and a Lister dressing was subsequently applied, after thorough disinfection of the leg. There was not much general disturbance. The temperature rose to 102.2° F. on the second day, and gradually declined, reaching the normal point on the eighth day. All the flaps sloughed during the first week. During the third week large abscesses formed up the leg. The temperature rose to 104° F. Numerous counter-openings were made and several drainage tubes inserted. The Lister dressing was extended up the leg, and constantly changed under carbolized spray. During the fourth week the patient suffered an attack of erysipelas, the blush extending up the thigh and over part of the body. During the fifth week a solution of one to twenty carbolic acid was used by mistake in the dressing (one to forty solution being generally used). There was some slight constitutional disturbance, together with black urine. From fear of further ill effects from carbolic acid poisoning the antiseptic dressing was removed, and the leg dressed with oakum. There was a gradual improvement, all the abscesses closed, and a granulating surface remained on the end of the stump. The skin of the leg being drawn down by sticking-plaster and a weight over the foot of the bed ("strawberry-box extension"), the sides of the wound contracted and covered the stump. The Lister dressing was changed twelve times in thirty-three days. The average

duration of a dressing was less than three days. The patient was discharged at the end of three months with a good stump.

Case IV. M. L. is a rather feeble American fifty-five years of age, has always been a hard drinker, and formerly attempted suicide while in acute mania. Foot and ankle were badly crushed by a railroad car. When brought to the hospital the patient was drunk and in a feeble condition. Ether being given, the leg was amputated just above the middle. Operation done according to Lister's plan, and a Lister dressing applied. There was absolutely no constitutional disturbance. The temperature never rose above 100° F., and the patient had his usual appetite on the day following the operation. A part of the lower flap sloughed, and later the whole inside of the wound sloughed out. It gradually closed, leaving a good stump.

The Lister dressing was abandoned at the end of seven weeks, having been changed eleven times. Average duration four and one half days. The patient was discharged, well, in eight weeks.

Case V. B. M., a pale, thin German, evidently consumptive, a bar-tender and a drinking man, aged fifty-two. His right arm was badly crushed by a railroad car. The laceration extended so high that a shoulder amputation seemed unavoidable, but by sawing off the bone just below the capsule of the joint and using some doubtful skin the flaps were brought together, thus leaving the contour of the shoulder. The operation was done according to Lister's system and a Lister dressing applied. There was but little disturbance. The temperature rose to 102° F. on the third day, and returned to the normal point on the seventh day. Nearly all the drainage tube was removed on the second day. There was scarcely any pus in the dressing, which was changed on an average every five days, and was removed in four weeks. The wound healed for the most part by first intention. The patient was discharged in thirty-three days with a small sinus, which, however, soon healed.

Case VI. P. G. is a healthy American aged thirty years. The leg was crushed by a railroad car. The patient was brought to the hospital ten hours after the injury, during which time he had been etherized and a tourniquet applied to control the hæmorrhage, which was profuse. He was blanched and in a very poor general condition. The leg was tense and swollen. It was amputated at the middle by transfixion, and according to Mr. Lister's method, but the carbolic spray gave out during the operation. A Lister dressing was applied. During the operation the patient became cold and pulseless. He was put to bed with heaters, his feet being raised. Enemas of brandy, etc., were given. Seven hours after the operation the pulse improved a little, and the patient reacted feebly. The temperature rose to 102.5° F. on the fourth day, and reached the normal point on the ninth day. The general condition steadily improved, but a portion of the flaps sloughed. Later a large abscess formed in the calf of the leg, for which a counter-opening was made and a bunch of horse-hair inserted. The horse-hair being gradually removed the cavity closed. The Lister dressing was removed in eighty-four days, having been changed nineteen times. Average duration five and one half days. A granulating surface remained, which healed under extension. A portion of the bones of the stump were removed at a subsequent operation, and the wound healed by first intention.

Case VII. G. P. is a healthy American child five years old. Both legs were run over by a horse-car. The left leg was badly crushed, requiring amputation just above the knee. There was a compound fracture of the right leg in the lower third. This leg having been washed in carbolic acid, a Lister dressing was applied. The leg was then put up in a pillow, with splints outside. The right leg was amputated, and a Lister dressing applied. The temperature rose to 102.2° F. on the second day, and reached normal on the eighth day. There was some sloughing of the flaps. The dressing was changed thirteen times in forty-one days, an average of three days. The compound fracture was found to be closed at the second dressing, no pus having formed. This patient was discharged in forty-one days, with a stump nearly healed.

Case VIII. J. B., aged fifty-six, was born in England, is rather old for his years, and a drinking man. His arm was caught in a sawing machine and drawn in. When first seen his general condition was tolerably good; the right fore-arm was completely torn off, and the muscles of the upper arm badly mangled and lacerated, the skin being dissected up from the axilla. The arm was amputated at the shoulder-joint, the best skin thereabout being used for flaps. A Lister dressing was applied. The temperature rose to 102.2° F. on the second day, and fell to normal on the fourth day. The drainage tube was removed on the eighth day. Most of the wound healed by first intention, there being scarcely any sloughing. A pocket formed in the axilla, into which several counter-openings were made, and horse-hair drainage established. But this pocket gradually filled, and the Lister dressing was removed in thirty-nine days, during which time it had been changed twelve times. Average length three and one fourth days. The patient discharged, well, in eight weeks.

The above cases, all with extensive lacerations, when it is always doubtful how much tissue is sound, and hence sloughing is often imminent, serve to illustrate how long the Lister dressing may be left unchanged under the most unfavorable circumstances. The dressings were usually stained, and were always renewed on the day following the operation. While sloughing was going on or abscesses were discharging they were changed every two or three days, rarely every day. While the wounds were doing well and the discharge was small they were dressed every five or seven days. The first four cases were all in an open ward together, and all sloughing extensively; in two of these cases the dressings were removed on an average once in five and one half days, in one once in four and one half, and in another once in three days, and yet there was no bad smell in the ward.

LETTER FROM MEMPHIS.

Mr. Editor, — Official duties required my presence in Memphis just as the late epidemic was abating in violence, though still attended by many of the distressing conditions that have made that city the centre of national interest and sympathy for the last two months. During that time a state of things has prevailed in the unfortunate city of which no description can give a proper

conception to the people of our Northern communities, who are exempt from such terrible visitations as Memphis has experienced, and from which may they forever be preserved.

It is not too much to say that a perfectly correct and unembellished description of the scenes enacted here during the height of the epidemic would seem much more appropriate to the domain of sensational fiction than to the serious pages of a medical journal; but the facts that came under my own observation, and those recounted to me on the spot by the principal actors in them, impressed me so strongly that I believe a concise account of the prominent features of the epidemic, and of the work of our medical brethren at Memphis, will not be unsuited to your pages.

In the opinion of the local physicians the outbreak at Memphis resulted from the importation of the disease in the persons and effects of some sick boatmen from New Orleans, landed in violation of the ineffective local quarantine that had been established. Several foci of infection were thus established, from which the disease spread rapidly, and soon after the 1st of August was recognized to be prevailing in an epidemic form. The exodus to the North that annually occurs was greatly augmented; by the middle of August half of the population had fled from the city, and a month later probably not more than sixteen thousand souls out of a population of more than fifty thousand remained.

The local physicians soon recognized their inability to cope with the rapidly increasing number of cases, and an appeal was sent to the unaffected cities of the South for volunteer physicians, and was readily responded to by delegations from Charleston, Savannah, Mobile, Galveston, and towns in the Lower Mississippi Valley, and by an almost equal number from the cities of the Northwest.

The Howard Association was instituted for providing nurses, medicines, and the requirements of the sick-room for the afflicted, and in previous epidemics has accomplished a vast amount of good in this way; it has never before undertaken to furnish medical attendance, but the extraordinary virulence of this epidemic caused such demands to be made upon them that they found it necessary to provide physicians as well.

Dr. R. W. Mitchell, one of the most prominent practitioners of the city, was appointed medical director of the Howard Medical Corps into which the volunteer physicians were organized. The wisdom shown in placing the medical volunteers under the absolute direction of a professional head, to whom they were alone responsible, was equaled by that displayed in the selection of the person for this important duty. The skill and tact shown by Dr. Mitchell in organizing and directing the medical service so as to secure the greatest amount of efficiency, and the determination and good judgment displayed in meeting the numerous trying emergencies that arose, are worthy of the highest commendation.

The total suspension of the river traffic, on which the city mainly depends, the flight of the business classes, and the consequent closure of their establishments, deprived more than ten thousand people of the means of subsistence, and threw them on the care of the charitable societies, who had to provide

everything needed, not only for comfort, but to sustain life in the sick and the well. With the liberal contributions that poured in from all parts of the country this would have been a comparatively easy task, but for the complete demoralization and panic which caused the suspension of business of all kinds, so that hardly a drug, grocery, or provision store could be found open in the city. A doctor might write prescriptions, or order stimulants, beef tea, or milk diet, but where could they be obtained? This state of things greatly complicated the duties of the medical corps and interfered with the efficiency of their labors. To meet the necessities of the case the Howard Association established depots where, on requisition of any of their physicians, nurses, food, and other requirements *for the sick* could be obtained, while the Citizens' Relief Committee provided for those not affected. The wards of the city were divided into districts, to each of which a physician was assigned, and a place designated where all orders were to be left and attended to in rotation.

The daily duties of a Howard physician were to leave the hotel where all were quartered immediately after breakfast, and proceed to the point in his district where orders were deposited, and where he not infrequently found twenty or more calls awaiting him. Coming from a house where he had just seen six or eight cases, before reaching another he was frequently besought by some almost crazed parent or child to come immediately to his dying kindred. A known Memphis physician would have his carriage stopped in the street by a group of panic-stricken people begging him to tell them what to do for their friends. In these circumstances it was impossible to write prescriptions, or to give extended directions; he could only say to one do this, to another do that.

On the first assignment of the physicians to their districts their rounds were made on foot, but as the epidemic spread and the number of cases increased this became physically impossible, and a great variety of aids to locomotion were pressed into service; at first the doctors were carried about in springless mule carts, with a negro driver in keeping with his mule, and both poor specimens of the animal creation. Express wagons were gradually substituted for these, and as soon as possible a supply of "buggies" with fair horses was procured from Louisville and Cincinnati. In the almost complete absence of drug, grocery, and provision stores the members of the medical corps had to carry not only their medicines, but all articles immediately required for the comfort of the sick and the subsistence of the few who were well enough to attend them; so that on starting in the morning they added to their medical supplies a liberal quantity of beef essence, tea, sugar, arrowroot, milk, lemons, and ice, which they had to renew several times daily, and frequently they had to add a ham, a bag of flour or bread, a basket of coal, a pair of blankets, or other articles, for the afflicted households they visited. Although some twelve hundred nurses from various parts of the country were employed by the Howards, this number was totally insufficient. Great suffering resulted from want of attendance, and physicians were compelled, in common humanity, to discharge many offices usually performed by the nurse or friends. Nurses frequently remained from thirty-six to forty-eight hours by the bedside of patients without food or rest. In many households every member was stricken

down, and not unfrequently the physician had to pay the scant marks of respect that the body of the deceased received before being hurried away to its burial without a friend or attendant. Some idea of the work done by the Howard physicians may be formed from the fact that the daily report showed that many of them visited from one hundred to one hundred and fifty cases daily.

As the fever spread into the surrounding country the same condition of things prevailed as existed in the city, and Memphis was called on for help. Physicians of the corps were detailed for the places requiring their services, and remained while needed, aiding the local practitioners, or replacing them where they had died. Relief trains were sent out to the towns in all directions with physicians, nurses, medicines, and food, and greatly alleviated the prevailing suffering.

The persons remaining in Memphis throughout the epidemic who escaped an attack of the disease might almost be expressed by the figure 0. A census of several districts of the city was carefully taken by direction of Dr. Mitchell, and the returns showed that in the different districts from eighty-five to ninety-eight per cent. of the residents had been affected; these figures seem almost incredible, but I was assured that they were reliable; the rate of mortality will not be far from thirty-three per cent. It was greatly in excess of this in the hospitals and infirmaries, of which several were fitted up in school-houses and public buildings, the deaths in these averaging over fifty per cent.; so that towards the close of the epidemic they were discontinued, and the patients treated at their homes when possible. At the height of the epidemic the deaths ranged from one hundred to one hundred and twenty-five daily, and it seemed as if there were not enough of the living to bury the dead. The bodies of persons who in life had been surrounded with all the comforts of wealth and position were hastily dispatched to the cemetery without a friend or attendant, and dumped beside fifty others, or more, waiting interment. Large numbers were buried in trenches, and Elmwood Cemetery is studded all over with family lots, where five and six freshly made mounds tell an awful tale of suffering and bereavement. One can hardly conceive a sadder sight than the group of thirty-one freshly raised mounds that mark the graves of the volunteer physicians, with those of nearly a hundred nurses just behind them, who fell in the discharge of their duties.

In regard to the character of the physicians composing the Howard Corps it may be said that while a few were undoubtedly attracted to Memphis by the *per diem* paid by the Howard Association, and a few by a desire for notoriety and *éclat*, the majority were influenced by purely philanthropic motives and a wish to serve the afflicted people in their hour of calamity. A volunteer physician on arriving in Memphis was directed to report to Dr. Mitchell. If unacclimated, or if he had not had the fever, the great risk he incurred was pointed out to him, his services were declined, as in time he would only add to the common burden, and he was advised to return home. Many wisely accepted the counsel and did return; some, on their services being declined by the Howards, quietly went to work in the infected districts; the few who displayed this spirit were sought out and added to the Howard Corps, mainly with the

view of securing their decent burial when the fate to which they were almost certainly destined should overtake them.

Several physicians from Indiana and Ohio went to Memphis relying implicitly on the theory that yellow fever always attacked its victims at night, and while asleep, and that a proper altitude and quinine were powerful prophylactics; they slept in third or fourth story rooms, took twenty or thirty grains of quinine daily, did not go out after night-fall, and fell victims to their misplaced confidence.

The certainty with which the unacclimated were attacked was appalling. Of twenty-eight physicians who had not had the fever, only one escaped. Of a delegation of eleven nurses from Cincinnati, but one was alive at the end of the epidemic, and was the only one of the number who had had the fever. On the other hand, of four physicians and fifty-four nurses from Charleston, all of whom had suffered from the fever in previous epidemics, not one was attacked in Memphis.

I cannot avoid enlarging on the devotion shown by many of the physicians who went to Memphis with their lives in their hands, and sacrificed them for the relief of the stricken people. It required a much higher order of courage than to risk life on the battle field, where patriotism, the excitement of conflict, and the contagious enthusiasm of masses are a stimulus to noble deeds: these are wanting to the physician who treads wearily along the path marked out by disease and suffering, surrounded by the poisonous breath of the pestilence that carries desolation on every hand; the moanings that ring in his ears are never drowned by shouts of victory and triumph, and he battles with a foe insidious and unseen till the blow is struck that lays low the victim. The horribly depressing influences that surround the physician engaged in a struggle with pestilence can be estimated only by those who have passed through it. W.

SHORT COMMUNICATIONS.

NATIONAL YELLOW-FEVER RELIEF COMMISSION.

Executive Committee: A. R. Shepherd, chairman; William Dickson, secretary; L. J. Davis, treasurer; Arthur MacArthur, George Hill, Jr., Leonard Whitney, John T. Mitchell, A. S. Solomons, Simon Wolf, B. H. Warner, John F. Cook, John M. Woodworth, M. D.

WASHINGTON, D. C., *November* 1, 1878.

To Yellow-Fever Relief Associations, Committees, etc.:

At a meeting of the executive committee of the National Yellow-Fever Relief Commission, held on October 30, 1878, the following resolutions were adopted, and directed to be forwarded to the various relief associations throughout the United States: —

"In prosecuting the duties which have required the attention of this commission, we have witnessed with profound emotion the wide-spread evidences of a noble, tender, practical, humane sympathy. At the cry of the stricken and dying, not only have words of kindness been spoken, but deeds have been done and sacrifices have been made which have embalmed the beneficence in the memory of the age. From all sections of the country the treasures of the people have been willingly and promptly offered, and many, as voluntary victims on the altar of humanity, have fallen before the face of death while giving their personal ministrations for the relief of the suffering. The influence of such noble charity and moral heroism should not be allowed to pass away, leaving no deeper impression than can be made

by the daily newspaper record. We deem it to be of untold advantage, not only in demonstrating our common humanity, but in binding more firmly in loving brotherhood the people of our great community of States, that the history of this grand sympathetic movement of the hearts of the people be made a part of the history of the nation, and that the permanent record be scattered widecast over the land. With the view, therefore, of making a full report to Congress at the beginning of its coming session, and of asking that the same be printed in book form for public distribution, it is —

"*Resolved*, That all relief committees and other organizations which have contributed in aid of the yellow-fever sufferers of the South during the present epidemic be requested to communicate to this commission the gross amount they have collected, and in what manner they have disposed of their funds, together with such other information as will give a history of their benevolent work.

"*Resolved*, That a committee of three, of which Surgeon-General Woodworth, of the Marine Hospital Service, shall be chairman, be designated by the chair to prepare and edit this report, and that they be empowered to employ such clerical assistance as may be deemed necessary."

In accordance with the foregoing resolutions, you are requested to fill the appended blank, detach and return it at as early a date as possible to Dr. John M. Woodworth, P. O. box 33, Washington, D. C. In addition to this, such items of information as you may have from newspaper clippings, letters of correspondents, or extracts from letters, which will be of use in making up the full history of this relief work, are respectfully solicited.

JOHN M. WOODWORTH, *Chairman of Committee to edit Report.*

ABSTRACT OF THE BULLETIN OF THE PUBLIC HEALTH.

ISSUED BY THE SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE, UNDER THE NATIONAL QUARANTINE ACT OF 1878, FOR THE WEEK ENDED NOVEMBER 15TH. No. XIX.

OFFICE SURGEON-GENERAL M. H. S., WASHINGTON, *November* 16, 1878.

NEW ORLEANS, LA. — For the week ended yesterday evening there were 11 deaths from yellow fever. Impossible to procure accurate number of new cases. No new cases or deaths for the past twenty-four hours.

CLINTON, LA. — The first case of yellow fever occurred September 7th. Among the white population there have been 40 cases and 15 deaths; among the colored people 56 cases and no deaths.

MORGAN CITY, LA. — Twelve new cases of yellow fever and one death during the last week.

DELPHI, LA. — The first case of yellow fever occurred in August. Total cases to date 100, deaths 50. Both physicians died early.

MOBILE, ALA. — There were 21 new cases of yellow fever during the past week and eight deaths.

VICKSBURG, MISS. — There were four new cases of yellow fever and three deaths during the past week. For the same period there were eight cases and two deaths in the surrounding country.

PASS CHRISTIAN, MISS. — Three new cases of yellow fever during the last week; no deaths. The last case occurred on the 10th, and the last death on the 3d inst.

CHATTANOOGA, TENN. — Two new cases of yellow fever and two deaths during the past week. Last case and last death occurred on the 10th inst., — both colored.

OSYKA, MISS. — The first case of yellow fever occurred July 31st. Total number of cases to date 227, total deaths 30.

MOSCOW, MISS. — Population 185. First case of yellow fever August 31st, last case November 3d. Total cases 71, deaths 35.

MCCOMB, MISS. — First case of yellow fever September 28th. Total deaths to date 21.

LAKE, MISS. — To November 1st there had been 300 cases of yellow fever and 86 deaths.

CANTON, MISS. — Total cases of yellow fever to November 1st 919, deaths 176.

PORT GIBSON, MISS. — To November 5th there were 655 cases of yellow fever, and 161 deaths.

HAVANA, CUBA. — Sixteen deaths from yellow fever and none from small-pox for the week ended November 9th.

BALTIMORE, MD. — The deaths include six from diphtheria, five from enteric and three from scarlet fever.

BOSTON, MASS. — There were 16 cases of scarlet fever, and three deaths; 16 cases of diphtheria, and eight deaths.

BROOKLYN, N. Y. — For the two weeks ended November 9th there were five cases of enteric fever and two deaths, 41 cases of scarlet fever and two deaths, 81 cases of diphtheria and 36 deaths.

CHARLESTON, S. C. — For the week ended November 9th there were 25 deaths from all causes, including two from enteric fever, and one from diphtheria.

CHICAGO, ILL. — There were 13 deaths from diphtheria, four from scarlet fever, and seven from enteric fever.

NEW YORK CITY. — The deaths include 11 from scarlet fever and 18 from diphtheria.

PHILADELPHIA, PA. — The deaths include 10 from diphtheria, seven from scarlet and nine from enteric fevers.

RICHMOND, VA. — The deaths include two from scarlet fever and one from diphtheria.

RIO DE JANEIRO, SOUTH AMERICA. — For the two weeks ended October 12th there were 227 deaths from small-pox, three from typhus fever, 10 from enteric fever, four from yellow fever, and 18 reported from "pernicious fever." Deaths from all causes show an average death-rate of 43.5.

GREAT BRITAIN. — In twenty large cities and towns of England, having a population of seven millions, the deaths for the week ended October 26th show an annual rate of mortality of 21.6 per 1000 of the population. The deaths include five from small-pox, 187 from scarlet fever, and 71 from other fevers. In Dublin, for the same week, the mortality-rate was 23.5. There were five deaths from small-pox and eight from scarlet fever. In Belfast, for the week ended October 31st, there were nine cases of scarlet fever and one death; three cases of enteric fever, but no deaths.

STOCKHOLM, SWEDEN. — For the week ended October 12th the total mortality shows an average annual rate of 17.3. Enteritis and diarrhœa caused one fifth of the deaths.

CHRISTIANIA, NORWAY. — For the week ended October 19th there were three deaths from diphtheria and one from scarlet fever. The average annual rate of mortality was 13.8 in 1000 of the population.

GERMAN EMPIRE. — During the week ended October 19th there were 5475 births and 3480 deaths in one hundred and forty-nine cities and towns, of 15,000 people and upwards, having an aggregate population of 7,439,708. The average annual death-rate per 1000 of the population was 24.3; the lowest being 11.5, at Potsdam, the highest 37.9, at Augsburg. In Berlin the death-rate was 27. The total deaths include 113 from scarlet fever, 169 from diphtheria and croup, and 70 from enteric fever. There were no deaths from small-pox or typhus fever. The "rinderpest" is reported to be decreasing in some of the provinces of Turkey.

CHINA. — Advices from Shanghai to October 1st report only sporadic cases of Asiatic cholera at that port. Cholera first appeared in China in 1820, having been brought by sea from Siam, and has proved very malignant at times, although at no time ravaging an extensive region of country. Sporadic cases occur at Shanghai in the summer and autumn of almost every year. All persons visiting China and Japan are advised to be revaccinated before going. The universal practice of inoculation with small-pox virus which obtains in those countries accounts for the frequent deaths among foreigners from small-pox. Inoculation does not always protect from subsequent attack. Diphtheria is not common in Shanghai. It is restricted almost wholly to higher latitudes of the empire. Yellow fever is unknown in Eastern China. Typhus fever often prevails, but generally over restricted areas. Leprosy prevails to some extent in the province of Canton, which furnishes nearly all the Chinese emigrants to the United States. The disease was introduced into the Sandwich Islands from China.

SINGAPORE. — The island and port of Singapore are reported free from all epidemic or infectious diseases; advices to September 27th.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 9, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	448	21.31	23.42	28.71
Philadelphia.	876,118	275	16.32	18.80	21.54
Brooklyn.	549,438	219	19.78	21.51	25.50
Chicago.	460,000	119	13.45	17.83	22.39
Boston.	375,476	119	16.48	20.10	24.34
Providence.	100,000	42	21.84	18.81	19.20
Lowell.	55,798	14	13.05	19.09	22.50
Worcester.	54,937	6	5.68	20.06	22.30
Cambridge.	53,547	25	24.27	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	7	10.25	20.42	19.67
Springfield.	33,981	7	10.72	16.02	19.77
Salem.	27,140	7	13.41	20.38	21.15

The late Dr. George H. Gay. — The following is an extract from the records of a meeting of the medical board of the Massachusetts General Hospital, held November 15th: —

"This being the first meeting since the death of Dr. George H. Gay, for twenty-three years one of the hospital surgeons, it was unanimously voted that, in remembrance of their late associate, the medical board enter upon its records a respectful and hearty recognition of the loss which it has sustained. Dr. Gay was educated under more than usually favorable influences. His natural surgical instincts matured early. His interest in the study of surgery never decreased. In his relations with patients his kindness and tact were guided by a judgment which was always sober, discreet, and conservative. The absence of his social and friendly personal influence is felt by his colleagues, as also of his skill and services by the hospital to which he faithfully devoted himself for a period of so many years."

A Loan Collection of Medical Portraits is being made for the dedication of the new hall of the Medical Library Association, 19 Boylston Place, on December 3d. Any one owning a portrait of any former medical practitioner in the State will confer a favor by communicating the fact at once to James R. Chadwick, M. D., *Librarian.*

Books and Pamphlets Received. — Prescription and Case Record, with a Silicate Record Card. Published by Joel A. Miner, Ann Arbor, Michigan. Price 75 cents. Order by mail.

Art Anatomy. By A. J. Howe, M. D.

Sugar Frauds. Ways and Means Committee Investigation (Hon. Fernando Wood, chairman) at the New York Custom House. Henry A. Brown. 1878.

A Paper on Intra-Laryngeal Growths. By Clinton Wagner, M. D. (Ohio Medical Journal.) Columbus. 1878.

Clinical Lectures on Surgery delivered at Starling Medical College. By J. H. Pooley, M. D., Professor of Surgery. Columbus. 1878.

Report on Malpractice. A paper read before the Maine Medical Association June 12, 1878. By Eugene F. Sanger, A. M., M. D., of Bangor.

Practical Surgery, including Surgical Dressings, Bandaging, Ligations, and Amputations. By J. Ewing Mears, M. D. With two hundred and twenty-seven Illustrations. Philadelphia: Lindsay and Blakiston. 1878. (From A. Williams & Co.)